

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Technology Transitions	)	GN Docket No. 13-5
	)	
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**APPLICATION OF IOWA NETWORK SERVICES, INC.  
FOR AUTHORITY TO CONDUCT A SERVICE-BASED  
EXPERIMENT CONCERNING THE TDM-TO-IP TRANSITION FOR  
CENTRALIZED EQUAL ACCESS SERVICE**

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Iowa Network Services, Inc. (“INS”) hereby requests, pursuant to the Commission’s Order in the above-reference proceeding,<sup>1</sup> authority to conduct a service-based experiment concerning the TDM-to-IP transition for Centralized Equal Access (“CEA”) service. The evolution of CEA to an all-Internet Protocol (“IP”) network will help achieve one of the primary goals of the service-based experiments: speed technological advances in rural America while preserving the positive attributes of network services that consumers have come to expect.<sup>2</sup> INS provides the following information in support of its application.

**I. INTRODUCTION**

The Commission granted Iowa Network Services a Section 214 Certificate for the purpose of improving telecommunications services for consumers in rural local exchange carrier (“LEC”) exchanges. INS was authorized by the Commission and the Iowa Utilities Board to construct and operate a CEA network to aggregate rural traffic, centralize the provisioning of expensive features and functionalities, and help bring the benefits of advanced communications

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<sup>1</sup> *Technology Transitions*, GN Docket No. 13-5, FCC 14-5 (rel. Jan. 31, 2014) (“*Technology Transitions Order*”).

<sup>2</sup> *Id.* at para. 23.

services and competition to rural areas of Iowa.<sup>3</sup> The Commission granted INS a Section 214 Certificate, which still governs INS' operations today, to construct a substantial fiber optic network. The INS fiber optic network provides a bridge between the exchanges of nearly all the rural Iowa LECs and the full range of interexchange carriers ("IXCs"), commercial mobile radio service ("CMRS") providers, internet protocol television ("IPTV") service providers, competitive local exchange carriers ("CLECs"), and broadband internet service providers that want to provide service to rural Iowa communities. INS' fiber CEA network connects the facilities of these communications and information service providers to more than 300 exchanges operated by more than 140 rural LECs. The INS network consists of state-of-the-art, bi-directional fiber rings employing SS7 signaling. INS operates 5 diversely routed bi-directional fiber rings traversing over 2,700 route miles of fiber. This redundancy creates a durable and reliable network.

In granting INS authority to operate, the Commission and the Iowa Utilities Board determined that the benefits of rural traffic concentration, for both originating and terminating traffic, served the public interest by making rural areas more attractive markets from the perspective of competitive service providers. Through this network, communications and information service providers are able to indirectly connect to the rural LECs' local network facilities through one or more convenient points of interconnections ("POIs") established with the INS CEA network. Because the CEA network aggregates traffic for many rural telephone lines, communications and information service providers have the choice of reaching thousands

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<sup>3</sup> *Application of Iowa Network Access Division for Authority Pursuant to Section 214 of the Communications Act of 1934 and Section 63.01 of the Commission's Rules and Regulations to Lease Transmission Facilities to Provide Access Service to Interexchange Carriers in the State of Iowa, Memorandum Opinion, Order and Certificate*, 3 FCC Rcd. 1468, 1471 ¶¶ 21, 23 (1988), *aff'd on recon.*, 4 FCC Rcd 2201 (1989); *Iowa Network Access Division, Division of Iowa Network Services*, Iowa Utilities Board Docket No. RPU-88-2, 1988 Iowa PUC LEXIS 1 (1988), *aff'd on appeal*, *Northwestern Bell Tel. Co. v. Iowa Utilities Board*, 477 N.W.2d 678, 681 (Iowa 1991).

of customers in hundreds of rural communities through a single CEA connection. This concentration of traffic, made possible by CEA, has succeeded in providing consumers in rural LEC service areas with an attractive choice of several IXC's and has increased the availability of a variety of competitive service offerings. The benefits of the CEA network as recognized by the Commission and the Iowa Utilities Board, continue today.

Since its inception, INS has continuously worked with rural telephone companies and communities to improve communications service in all areas. This includes facilitating the deployment of high quality broadband by expanding INS' network, increasing bandwidth, and keeping pace with technology to minimize costs and maximize efficiencies. INS' initial challenge was to provide rural residents with a choice of long distance carriers by centralizing equal access functionality and concentrating rural traffic sufficiently to make rural areas attractive for IXC's to serve. The CEA network succeeded in attracting multiple IXC's to offer their services to rural residents, and still provides, efficient and cost effective equal access to the rural communities in Iowa. However, as described by the Iowa Supreme Court, "[t]he network will also offer 'modern information systems' to the [Participating Telephone Companies], another feature formerly unavailable because of the thinness of the market in any single independent, local telephone company prior to the INS collectivization." *Northwestern Bell Tel. Co. v. Iowa Utilities Board*, 477 N.W.2d at 681. The advantages of the CEA network have enabled rural access to additional new services, including VOIP, ISDN, ATM/frame relay services, host/remote switching, alarm monitoring and network management services, video conferencing, video transport, broadband Internet services, and special access.

CEA traffic aggregation and single source of network functionality provide efficiencies and cost savings for all types of communications companies that seek to compete in rural areas,

including IXC, CMRS providers, CLECs, IPTV providers, and broadband providers. These service providers, through utilization of the CEA facilities and tandem services of INS, are able to interconnect with each of the subtending rural LEC networks without having to establish separate direct interconnection arrangements with each of the rural LECs. INS also provides centralized technical expertise, simplified switch provisioning, and centralized recording, which minimize costs for all companies that want to compete in rural areas. INS supports simplified CARE and ASR processing; efficient traffic management, and economical facilities provisioning. Similar benefits will be realized from CEA as the nation's network transitions to IP.

## **II. BASIC FEATURES OF EXPERIMENTAL DESIGN**

### **A. Statement of Purpose**

The purpose of this experiment is to study the impact on customers and rural communities as INS' voice communications service converts from a CEA network based on time-division multiplexed ("TDM") circuit-switched voice services to a CEA network using new IP technologies ("IP CEA"). This experiment will also explore whether IP CEA can economically advance and accelerate IP conversion for the more than 140 rural LECs currently connected to INS' centralized platform, just as TDM CEA did for rural LEC equal access conversion. During this experiment, numerous diverse network providers [IXCs, CLECs, CMRS providers, internet service providers ("ISPs"), IPTV providers] that rely upon CEA as a bridge to rural exchanges will have the opportunity to prepare for and facilitate this historic technology transition.

Consistent with the presumptions adopted in the *Technology Transitions Order*,<sup>4</sup> the experiment will be considered a success if IP CEA provides a higher level of service quality and broadband access than TDM CEA. INS will study the user experience by conducting quarterly surveys of both service providers that purchase IP CEA from INS and end users that select their IXCs via IP equal access. The control group will be those service providers that continue to purchase TDM CEA from INS and end users that select their IXC via TDM CEA. The surveys will collect information about the differences between the services and features available to customers that participate in the experiment and those that are available outside the experiment.

## **B. Scope**

The primary focus of this IP CEA experiment is to advance universal access to new technologies for rural Americans. The Commission has recognized the challenges that rural America poses for full IP conversion, and has expressed a commitment to exploring “innovative solutions to common problems” that will ensure IP access for rural American consumers.<sup>5</sup> INS’ fiber CEA network connects network service providers of all kinds to more than 300 rural exchanges in Iowa operated by more than 140 rural LECs. The rural communities served by these LECs are geographically dispersed, with low population density. Consequently, in the absence of the centralized platform provided by CEA, each rural community on its own will lack the economies of scale necessary to affordably support the high costs of advanced IP-based technologies. IP CEA provides an innovative solution to this common problem confronted by rural America.

The initial challenge for rural America that CEA overcame was to make equal access conversion affordable for more than 140 rural LECs by avoiding the costs associated with equal

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<sup>4</sup> *Technology Transitions Order* at paras. 56, 57.

<sup>5</sup> *Technology Transitions Order* at paras. 30, 88, 90.



access conversions on a rural exchange by rural exchange basis. Prior to CEA, AT&T had an interLATA toll monopoly and Northwestern Bell Tel. n/k/a CenturyLink had an intraLATA toll monopoly in rural Iowa. At that time, only urban Iowa residents had a competitive choice of IXC. CEA provided rural residents with a choice of long distance carriers by centralizing equal access functionality and concentrating rural traffic sufficiently to make rural areas attractive for competitive carriers to serve.

The current challenge that IP CEA can help overcome is to ensure a different form of equal access conversion for rural America: IP conversion and equal access to the same new IP-based technologies and futuristic services available in urban areas. As TDM CEA did for equal access conversion, this experiment will study whether IP CEA can operate as a centralized platform extending innovation to rural consumers. This experiment will explore whether IP-based advanced services can be installed and maintained more quickly, efficiently, and economically via IP CEA on a statewide basis, instead of on an individual LEC or rural exchange basis. Furthermore, the experiment will evaluate the efficiencies and cost savings that IP CEA traffic aggregation and single source of network functionality will provide for all types of communications companies that seek to compete in rural areas, including IXCs, CMRS providers, CLECs, IPTV providers, and broadband providers. These service providers, through utilization of the IP CEA facilities and tandem services of INS, will be able to interconnect with each of the subtending rural LEC networks without having to establish separate direct interconnection arrangements with each of the rural LECs. Such traffic aggregation has the potential to create economies of scale and convert rural consumers into attractive customers for advanced communications and information service providers.

### C. Technical Parameters and Timeline

The Commission seeks information from IP experiments that will help it evaluate any impacts that the network transition to IP will have on services and features that consumers currently receive from the TDM network and have come to rely upon or enjoy.<sup>6</sup> Specifically, the Commission indicated that “we must be able to evaluate whether customers in experiment arenas will be able to select their own interexchange carrier (IXC) and how IXCs will terminate interstate interexchange or international calls to customers participating in the experiment.”<sup>7</sup> INS’ experiment will explore how IP CEA can ensure that in an all-IP world, there will be the same level of competition that exists today and that consumers will retain the same choice of providers for placing telephone calls (both 1+ and dial around), with the same protections against slamming. The Commission also wants to understand how IP will impact services that rely upon the functionality of copper networks, such as “fax machines, security and medical systems, alerts and monitoring services, DVR services, credit card billing, 800 number service, making 500, 700, 900, 950, 976 calls, making calling card or dial-around calls, the use of abbreviated dialing codes, reaching an operator by dialing “0”, the ability to accept collect calls or third-number billed calls, ankle bracelets, and SMS notification services.”<sup>8</sup> INS’ experiment will investigate the potential for IP CEA to preserve the positive aspects of these services that consumers have come to expect.

The IP CEA experiment will involve three phases:

- (1) INS will perform IP to TDM conversion at its tandems in Des Moines. In this phase, INS would solicit voluntary IP interconnection by IXCs, wireless carriers,

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<sup>6</sup> *Technology Transitions Order* at App. B, paras. 4, 5.

<sup>7</sup> *Technology Transitions Order* at para. 62.

<sup>8</sup> *Technology Transitions Order* at App. B, para. 5.

VOIP providers, and CLECs with INS' CEA network for both originating and terminating traffic that INS would convert from IP to TDM. INS would charge the same CEA rates that it does for other CEA traffic, consistent with Commission's requirement that current intercarrier compensation arrangements be maintained.<sup>9</sup>

- (2) In the second phase, the traffic would be all-IP between IXCs (and other service providers that volunteer to participate in the experiment) and the LECs' switches that connect with INS' network on an IP basis. INS would charge the same CEA rates that it does for other CEA traffic. This phase addresses the FCC's concern with the migration of transport from TDM (SS7) to IP (and SIP).<sup>10</sup>
- (3) In the final phase, INS would test all-IP facilities from the originating end user located in a LEC's exchange subtending INS' tandems to the IXC selected by that end user (IP equal access) and, ultimately, to the called party located in the exchange of a second local exchange subtending INS' tandems. There would not be any IP to TDM conversion involved in this final phase. INS would charge the same CEA rates that it does for other CEA traffic. INS would identify subtending LECs, end users, and IXCs that would agree to participate in this final phase. This phase addresses the FCC's concern whether consumers will be able to select their own IXC in an all-IP world on both an equal access 1+ or dial around basis.<sup>11</sup>

#### **D. Customer Participation**

The IP CEA experiment will be completely voluntary for existing customers. INS will notify current CEA service customers about the experiment and seek their agreement to

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<sup>9</sup> *Technology Transitions Order* at para. 63.

<sup>10</sup> *Technology Transitions Order* at para. 16.

<sup>11</sup> *Technology Transitions Order* at para. 62.

participate. Customers will be permitted to opt into the experiment after it has been initiated. INS will also engage in outreach and educational efforts to inform customers about this IP CEA experiment.

**E. Regulatory Relief or Authorizations**

INS is not aware of any additional regulatory authorizations that are required to conduct this IP CEA experiment. INS does not intend to discontinue its TDM-based CEA service, and therefore, does not require authority to discontinue any service. Furthermore, the authorizations granted by the Commission and the Iowa Utilities Board for INS to construct and operate a CEA network do not require additional authorizations to provide CEA on an all-IP basis.<sup>12</sup>

**F. Other Governmental Entities**

INS' experiment will comply with all Iowa laws and regulations. Once the Commission authorizes the experiment, INS will notify the Iowa Utilities Board.

**III. VALUE-BASED CONDITIONS AND PRESUMPTIONS**

**A. Public Safety**

**1. Conditions**

**a. Preserve 911/E911 and Next Generation 911 Capabilities**

INS' experiment will in no way diminish consumer access to 911/E911 emergency services. During the experiment, 911 calls will be routed just as they are today. Furthermore, it is critical to ensure that the IP transition does not prevent consumers from placing local emergency calls in the event of a fiber cut that impedes calling 911/E911. To avoid impairing the ability of rural residents to place local calls to police or other local public safety organizations, local switching in each rural community must be maintained. Rural communities often rely on only

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<sup>12</sup> See *supra* n. 3.

one fiber route to communicate with the outside world, which means that rural residents must rely upon local calls during emergencies if that single fiber is cut and put out of operation. In the absence of such local switching, there is a risk that the IP transition could isolate rural communities in the event of a fiber cut and prevent rural residents from placing local calls to police or other local public safety organizations. INS' experiment will study whether an IP CEA network can enable rural communities to communicate on an IP-basis with the rest of the world while maintaining local switching and the ability of rural consumers to place local emergency calls.

**b. Safeguards to Ensure Public Safety Functionality in Adverse Conditions**

Because INS does not intend to change how 911 calls are routed today, the experiment will not affect connectivity or public safety functionality. Furthermore, INS' fiber rings and dual tandem switches will continue to provide protection against the disruption of any emergency services that rely upon the CEA network. In addition, as discussed above, the IP CEA experiment will enable rural communities to communicate on an IP-basis with the rest of the world, while maintaining local switching and the ability of rural consumers to place local emergency calls during adverse conditions, such as fiber cuts, that preclude communications with first responders located outside the local community.

**c. Protect Essential Communications Services for Safety of Life and National Security**

INS' experiment will allow for the continuation of TDM-based CEA service for national security, emergency preparedness, and public safety operations that today depend upon existing TDM-based communications services. The experiment will help evaluate the IP CEA network as a technology transition platform that will gradually, seamlessly, and safely transition rural communities to IP without sacrificing critical functionality for public safety and national security

operations. Rural communities, often connected to the rest of the nation's network by only one fiber route, are most at risk of becoming isolated and disconnected from essential national security and public safety communications systems. IP CEA will enable the IP transition to occur rural community by rural community. Until it is proven that an IP substitute system can meet the requirements for the performance of safety of life and national security missions in a particular rural community, consumers located in that rural area will be able to communicate with the rest of the world on an IP-basis over the IP CEA network, while critical governmental systems are able to continue to rely upon TDM-based communications via the TDM CEA network.

**d. Ensure Network Security**

INS will follow best practices, consistent with the Framework adopted by the National Institute of Standards and Technology on February 12, 2014, to ensure that the network services it intends to deliver over IP-based facilities during the proposed experiment are protected from cybersecurity threats and vulnerabilities. INS will continually monitor its IP-based networks and services to ensure that they maintain levels of integrity, confidentiality, reliability, and availability comparable to those of its TDM CEA network and services. INS' cybersecurity practices are based on lessons learned and predictive indicators derived from previous and current cybersecurity activities. Through a process of continuous improvement incorporating advanced cybersecurity technologies and practices, INS actively adapts to a changing cybersecurity landscape and responds to evolving and sophisticated threats in a timely manner. Information is actively shared by INS with other network service providers to ensure that accurate, current information is being distributed to improve cybersecurity before a cybersecurity event occurs.

INS collects threat and vulnerability information from information sharing forums and other sources. The threats, vulnerabilities, likelihoods, and impacts are then evaluated to determine risks and identify risk responses. Response and recovery plans are tested.

INS is continuously improving its protection processes. Integrity checking mechanisms are used to verify software, firmware, and information integrity. Backups of information are conducted, maintained, and tested periodically. Vendors that supply hardware and software for INS' networks must satisfy INS' supply chain risk management criteria.

INS' networks are continuously monitored to detect potential cybersecurity events. Detected events are analyzed to understand attack targets, methods, and impact. Response procedures are then executed to prevent expansion of an event, mitigate its effects, and eradicate the incident. INS will then execute as soon as possible a recovery plan to restore any capabilities or services that were impaired due to a cybersecurity event.

Access to INS' systems is controlled, and communications and control networks are protected. Identities and credentials are managed to limit access to INS' facilities to only authorized users.

**e. Ensure Adequate Backup Power**

In the event of a power outage, backup generators and batteries installed at INS' tandem offices provide sufficient, reliable backup power to maintain full IP CEA service functionality, including network monitoring capabilities, for at least 24 hours at full load.

**f. Report Network Outages**

INS commits to filing outage reports relating to outages of IP CEA service and to notify Public Safety Answering Points ("PSAPs) consistent with Part 4 of the Commission's rules.



**g. Continued Compliance with CALEA**

In conducting the IP CEA experiment, INS commits to continue to comply with the Communications Assistance for Law Enforcement Act (“CALEA”), its obligations under U.S. Code Titles 18 and 50, and similar state requirements.

**2. Presumptions**

**a. Maintain Network Reliability**

During the experiment, INS will maintain current levels of network reliability, consistent with the voluntary best practices recommended by the Communications Security, Reliability, and Interoperability Council.

**b. Provide Public Alerts**

Should INS include in its experiment any portion of its infrastructure currently supporting the Emergency Alert System or the provision of Wireless Emergency Alerts (WEA), INS will ensure that such alerting capabilities continue and are not affected by the IP CEA experiment.

**c. Address Public Safety Telecommunications Priority Services**

During its experiment, INS will maintain applicable priority access, routing, provisioning, and restoration programs to support essential national security and emergency preparedness communications.

**B. Universal Access**

**1. Conditions**

**a. Ensuring Access for Persons with Disabilities**

The IP CEA experiment will ensure that people with disabilities continue to have access to TDM-based communications services and technologies they depend upon. Furthermore, INS will comply with all applicable disability accessibility requirements mandated by statutes and Commission rules.



Functioning as a technology transition platform, IP CEA will allow IP to be gradually phased in, and avoid an all-IP or nothing flash cut for persons with disabilities. Instead, new IP assistive technologies can be tested over the IP CEA network, while TDM-based communications remain available to persons with disabilities via the TDM CEA network. Particular communications services or assistive technologies can be safely transitioned over time on a case-by-case basis to the IP CEA network, once an IP substitute system has received all regulatory approvals and proven to fully meet the needs of persons with disabilities.

**b. Protect Specific Populations**

INS will ensure that specific populations, such as the elderly, individuals with limited English proficiency, and low-income individuals, continue to receive access to TDM-based communications services and critical functionalities during the IP CEA experiment. As a transition platform, IP CEA will allow specific populations most vulnerable to price increases (a common attribute associated with new technologies) to retain their TDM-based communications services via the TDM CEA network until IP-based services become affordable. IP CEA will also ensure the continuing availability of local switching. The future retention of local switching is critical for specific populations, such as the elderly or persons with disabilities living in rural America. Such vulnerable populations depend upon the ability to place local calls to neighbors or within the local, rural community when a fiber cut isolates the rural community from the rest of the world.

**2. Presumptions**

**a. Maintain Universal Service Status Quo**

INS affirms that it will continue to comply with all existing universal service rules and policies regarding both support and contribution obligations.

**b. Preserve and Enhance Broadband Access**

INS affirms that its IP CEA experiment will provide the same or better levels of Internet access when compared to the Internet access currently provided by INS.

**c. No Reduction in Overall Quality of Service**

INS affirms that IP CEA service will offer equivalent or better quality comparable to TDM CEA service. The record in WC Docket 13-39 revealed that a large percentage of calls with quality problems involved voice-over-internet-protocol (“VoIP”) service providers. Consequently, in that rulemaking proceeding, INS recommended that the Commission establish federal standards to combat the degradation in quality of calls placed to rural America.<sup>13</sup>

**C. Competition**

**1. Conditions**

**a. Maintain Wholesale Access**

Participation by wholesale customers, such as CLECs, in the IP CEA experiment will be completely voluntary. INS affirms that: (1) the same types of wholesale customers will continue to use its network during the IP CEA experiment; (2) access provided during the experiment will be functionally equivalent to that provided immediately before the experiment; (3) the prices or costs of such access will not increase as a result of the experiment; (4) neither wholesale nor retail customers will be penalized as a result of the experiment; and (5) the experiment will not have an impact on INS’ wholesale customers.

**b. Maintain Status Quo in Interconnection**

INS affirms that the IP CEA experiment will maintain the status quo in providing interconnection arrangements to both existing and new customers. In addition, the experiment

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<sup>13</sup> See e.g., INS Comments, WC Docket 13-39 (May 13, 2013), which can be found at <http://apps.fcc.gov/ecfs/document/view?id=7022314344>.

will study how benefits that consumers now enjoy, such as an equal access choice of multiple interexchange carriers, can continue to be made available to the public after communications services transition to IP. Specifically, INS' experiment will try to answer the Commission's inquiry "whether customers in experiment arenas will be able to select their own interexchange carrier (IXC) and how IXCs will terminate interstate interexchange or international calls to customers participating in the experiment."<sup>14</sup> Just as TDM CEA provided the equal access capabilities and rural traffic concentration that was necessary to successfully make available to rural consumers a choice of several IXCs for TDM-based communications, this experiment will explore whether IP CEA can preserve the rural consumer's choice of multiple IXCs (on both a 1+ and dial around basis) after the IP transition. Furthermore, IXCs will be able to terminate interexchange or international calls to customers participating in the experiment by connecting at one or more convenient points of interconnection. Just as they can when terminating calls over the TDM CEA network, IXCs will be able to terminate calls over the IP CEA network to thousands of consumers in hundreds of rural communities served by more than 140 rural LECs through a single IP CEA connection,

## **2. Presumptions**

### **a. Maintain Intercarrier Compensation**

INS affirms that it will maintain the intercarrier compensation status quo ante during its experiment. INS will charge the same tariff rates to customers that agree to use the IP CEA service that INS charges for use of TDM CEA service.

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<sup>14</sup> *Technology Transitions Order* at para. 62.

## **D. Consumer Protection**

### **1. Conditions**

#### **a. Protect Customer Privacy**

INS affirms that its IP CEA experiment will fully comply with existing requirements to protect customer privacy.

#### **b. Comply with Truth-in-Billing, Slamming, and Cramming Rules**

INS affirms that its IP CEA experiment will fully comply with the truth-in-billing, slamming, and cramming rules. An important aspect of the experiment will be to study whether IP CEA can preserve safeguards against anti-consumer practices, such as slamming, by applying the same equal access, IXC presubscription, and letter of authorization (“LOA”) requirements to a change in a customer’s preferred IXC for IP-based communications services that INS currently applies when offering equal access to IXCs on a TDM basis.

#### **c. Maintain Local Number Portability**

INS affirms that its IP CEA experiment will fully comply with applicable number portability rules and policies. During the experiment, other providers’ customers will be able to continue to keep their numbers and port numbers.

#### **d. Preserve Call Routing Reliability**

During the experiment, INS will ensure that routing and call delivery processes are in place so calls are successfully completed. INS will test advanced call routing technologies, while ensuring that consumers are able to call everyone they formerly were able to call over the TDM CEA network without call completion failures. In advocating strong regulations to resolve the call blocking problems currently plaguing rural America, INS has ardently opposed efforts by

VoIP service providers to obtain an exemption from the Commission's rules and policies prohibiting such anti-consumer call blocking.<sup>15</sup>

#### **IV. CUSTOMER NOTICE REQUIREMENTS**

INS affirms that its IP CEA experiment will fully comply with all applicable customer and notice of network change requirements. In addition, INS will provide clear, timely, and sufficient notice to customers of its IP CEA experiment. A combination of mail, email, and bill inserts will be used to inform customers in a clear and conspicuous manner on how to provide INS with feedback. INS will allow customers to provide feedback through online complaint forms, email, as well as toll-free phone lines.

INS will provide customers with notice of: the nature of any relevant network changes; whether customers may opt in or opt out of the experiment after it has begun; the timing of any changes; what features of INS' existing technology will no longer be available on the new technology and how that may impact third-party devices and services the customer uses (e.g., medical monitoring services); how INS' services will change including any differences in prices, terms and conditions; where a customer may go for more information; and any other details regarding the experiment that likely will be of relevance to customers. INS will also notify its customers that the experiment is being conducted with Commission oversight, that the Commission encourages customers to provide feedback in this docket, and will provide INS' customers with instructions for doing so.

#### **V. DATA COLLECTION AND SUBMISSION**

INS will study the user experience by conducting quarterly surveys of both service providers that purchase IP CEA from INS and end users that select their IXCs via IP equal

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<sup>15</sup> See e.g., INS Reply Comments, WC Docket No. 13-39 (June 11, 2013), which can be found at <http://apps.fcc.gov/ecfs/document/view?id=7022426039>.


access. The control group will be those service providers that continue to purchase TDM CEA from INS and end users that select their IXC via TDM CEA. The surveys will collect information about the differences between the services and features available to customers that participate in the experiment and those that are available outside the experiment. The data that INS will seek to collect will include information about how IP CEA impacts public safety and law enforcement operations, persons with disabilities, and specific populations such as the elderly living in rural areas. In addition, the surveys will seek information to measure the rural economic impact of the IP CEA experiment, such as any changes in telecommunication-related employment in rural America as well as other effects on local economic opportunities in rural communities.

In addition to measuring network performance data, such as blocking and failure rates, performance of IP CEA will be determined through measurements of Mean Opinion Scores (MOS) which take into account the traditional IP measurements of latency, jitter, packet loss and other factors. The experiment will collect data metrics on call quality to compare IP CEA performance with that of the legacy TDM CEA network. Measurements will be taken monthly for a one week period during peak usage hours. The collected data and customer surveys, as redacted to protect customer privacy, will be filed with the Commission once each calendar quarter.

## **VI. CONCLUSION**

For all the foregoing reasons, INS respectfully requests that the Commission find that the IP CEA experiment proposed herein would serve the public interest and approve its commencement and implementation.

Respectfully submitted,

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